



**UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/147,428	12/22/98	SHIOTA	Y 2839-0065-3-

IM22/1229
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EXAMINER

CINTINS, I

ART UNIT	PAPER NUMBER
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1724

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DATE MAILED: 12/29/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/147,428

Applicant(s)
Shiota et al.

Examiner
Ivars C. Cintins

Group Art Unit
1724



☐ Responsive to communication(s) filed on _____

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-20 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-4 and 15-17 is/are rejected.

☒ Claim(s) 5-14 and 18-20 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☒ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Claims 5-14 and 18-20 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim may not serve as a basis for another multiple dependent claim. See MPEP § 608.01(n). Accordingly, these claims have not been further treated on the merits.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller (U.S. Patent No. 3,554,377). The reference discloses an apparatus comprising a packed bed of solid adsorbent (i.e. cation exchange resin bed 32), a water permeable "pressure layer" (bed 34) located above the packed bed, and a layer (30) for "dispersing and mitigating" an upward stream of water (see Fig. 3); and this is all that is required by claims 1, 2 and 15. Also, this reference device includes a partition (36) between the packed bed (32) and the pressure layer (34); and this is all that is further required by claim 3.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller. The reference discloses the claimed invention with the exception of the void percentage of the pressure layer (claim 4) and the dispersing and mitigating layer (claim 17), and the height of this dispersing and mitigating layer (claim 16). However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ beds having the recited porosity and height in the system of Miller, in order to provide a desired degree of liquid purification in this reference system. Applicant should note that Miller clearly teaches (see col. 3, line 45) that the material in each bed during backwashing can be "quite loose".

Wachsmuth (U.S. Patent No. 4,233,158) and Werfelman (U.S. Patent No. 4,260,426) show similar liquid purification systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I. Cintins

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whose telephone number is (703) 308-3840. The examiner can normally be reached on Monday through Thursday from 7:30 AM to 6:00 PM.

The fax phone numbers for this art unit are: (703) 305-3599 for "Official" faxes after Final Rejection; (703) 305-7718 for all other "Official" faxes; and (703) 305-3602 for "Draft" and other "Unofficial" faxes.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Ivars Cintis
Ivars C. Cintis
Primary Examiner
Art Unit 1724

I. Cintis
December 18, 1999